## PROJECT PUBLIC SUMMARY

**Screening:** The Project has been reviewed against OPIC's categorical prohibitions and determined to be eligible. The Project has been screened as Category A because of the potential for increased radiation exposure of workers and the public from normal operations and transportation activities and from transportation and Facility accidents. The most significant potential health effects resulting from public and worker exposure radiation exposure are latent cancer fatalities, non-fatal cancers and genetic effects.

**Applicable Standards:** OPIC's environmental and social due diligence indicates that the Project will have impacts that must be managed in a manner consistent with the following International Finance Corporation's (IFC) 2012 Performance Standards (PS):

- -PS 1: Assessment and Management of Environmental and Social Risks and Impacts;
- -PS 2: Labor and Working Conditions;
- -PS 3: Resource Efficiency and Pollution Prevention; and
- -PS 4: Community Health, Safety, and Security.

In addition, the Project is subject to Ukrainian regulations, including regulations related to nuclear safety, which are based on international standards and guidelines of the International Atomic Energy Agency (IAEA). Key, applicable IAEA Standards address management systems, safety fundamentals, safety assessments, radiation protection and safety of radiation sources, site evaluation for nuclear installations, safe transport of nuclear materials, radioactive waste, storage of spent nuclear fuel, decommissioning of facilities and preparedness and response for nuclear or radiological emergencies.

**ESIA Disclosure:** The Environmental Impact Assessment, Feasibility Study and supplemental materials for the Project were disclosed on OPIC's website on June 28, 2017. The public comment period ended on August 14, 2017. No comments were received by OPIC.

**Site Visits:** OPIC's environmental and social due diligence included site visits to the Holtec International manufacturing facility in Turtle Creek, Pennsylvania, Energoatom Headquarters in Kiev, Ukraine and the Project site located in the Chornobyl Exclusion Zone. During the site visit to Holtec's cask manufacturing facility in Turtle Creek, OPIC reviewed the safety features inbuilt in cask design and their compliance with the U.S nuclear regulatory requirements. In addition, OPIC conducted a tour of Holtec's cask manufacturing facility. During the meetings with Energoatom in Kiev, OPIC team reviewed the Project details and radiation safety features with the Technical Director of Energoatom Projects and his technical team. OPIC also met with the State Nuclear Regulatory Inspectorate of Ukraine (SNRIU) to get feedback on Energoatom's safety performance.

**Environmental and Social Risks and Mitigation:** Members of the public and workers could be exposed to increase radiation during normal operations of the Central Spent Fuel Storage Facility (CSFSF), normal transport of spent fuel assemblies from nuclear power plants in Ukraine to the CSFSF and during accidents. Worst case accident scenarios examined in the analysis include a "Design Basis Accident with Maximum Consequence", which was defined as release of

radiation from the Multi-Purpose Cask (MPC) surface, and a "Beyond Design Basis Accident", which was defined as damage to all fuel elements combined with MPC depressurization.

Energoatom has demonstrated, and the SNRIU and the Lenders' Independent Nuclear Engineer have confirmed, that in normal operations and transport and during Design Basis Accidents and Beyond Design Basis Accidents, the Project will be able to meet the following radiation exposure limits:

- Personnel: Per Order No. 940 by the Chernobyl NPP State Joint Venture, 20.12.2013, the reference level (effective dose) for employees working within the Chernobyl Exclusion Zone is 11 mSv/year for external exposure and 3.0 mSv/year for internal exposure
- Public: Per Basic Sanitary Rules for Assurance of Radiation Safety of Ukraine (OSPU DSP 6.177-2005-09-02) the reference level (effective dose) for members of the public is 1 mSv/year.

Energoatom has adopted a four-tiered system that provides defense in depth (a multi-level system of sequential, independent provisions such that if one level were to fail then subsequent levels of protection would be available).

Tier 1 includes measures that create conditions which prevent incidents and accidents. This has been accomplished by selecting an appropriate site in the Chornobyl Exclusion Zone, development of facility design using a conservative approach, quality assurance controls, internationally-accepted operating procedures to ensure safety, maintenance of safety-critical systems, selecting qualified and certified personnel, and establishment of a nuclear safety culture.

Tier 2 includes measures to prevent accidents which the Project has been designed to withstand. Accidents for which the Project has been designed for include extreme winds and tornadoes, snowfall, temperature swings (-40 degrees Celsius to +40 degrees Celsius), explosion, earthquakes, and an airplane crash. Other events included free drop of the cask (by 9 meters), puncture, engulfing in fire, and submerging under 200-meter water depth. Measures to mitigate impacts of such accidents include timely identification of deviation from design based limits and taking corrective actions using an efficient management system equipped with technical and organizational measures.

Tier 3 includes measures taken to respond to Design Extension Conditions (Beyond Design Based Accidents) which include destruction of fuel elements in the casks and the loss of cask integrity. Energoatom has developed measures to prevent and control such incidents through physical barriers and recovery of fuel assemblies and then maintaining them under a permanently cooled environment.

Tier 4 measures address planning for worker and public protection through an emergency response framework which will be coordinated with the Chornobyl Exclusion Zone management. Project facilities will be under surveillance around the clock and mock drills will be conducted to test the effectiveness of the emergency response framework.

The Holtec International cask system provides the main containment and shielding technical control for the Project. Similar Holtec systems have been licensed for use in the United States and Europe. Holtec's quality assurance/quality control system will apply to all equipment and systems in the Project that are important to safety.

Energoatom is continuously supervised by SNRIU, and SNRIU and Energoatom are routinely audited by IAEA and Euratom.